

On page 4, please replace the paragraph beginning on line 9 with the following:

92 --The Figure shows an interferometric measuring device 1 having a probe part 2 and, remotely therefrom, a demodulation interferometer 3 that is connected via an optical fiber 2.7". The probe part has a fixed probe part 2.1 and, rotationally mounted thereon, a rotatable probe part 2.2, which, at its front region facing a measuring object 5, is designed as a measuring head 2.3.--.

On page 5, please replace the paragraph beginning on line 4, with the following:

93 --Similarly to the modulation interferometers described in the publications mentioned at the outset, the demodulation interferometer includes a delay element 3.1, modulators 3.2, 3.2', e.g., acoustooptical modulators, a spectral element 3.3, a photodetector array 3.4, and light-guide elements 3.5, 3.5'.--.

On page 5, please replace the paragraph beginning on line 22 (extending to page 6, line 1) with the following:

94 --Demodulation interferometer 3 is constructed, for example, in accordance with the principle of a MachZehnder interferometer. In the demodulation interferometer, the light is split into two beams. In one arm of the demodulation interferometer, delay element 3.1, e.g., a plane-parallel glass plate is used. It cancels the difference which had been forced between the optical paths of the two beam components in measuring head 2.3. The two light beams are shifted in frequency with respect to each other by modulators 3.2, 3.2'. The frequency difference amounts, for example, to a few kHz. The two beam components, which are capable of interference, are superposed in beam splitter 3.5, coupled out, dispersed by spectral element 3.3, e.g., a grating or prism or filter, into